TOKEN: 2245h860

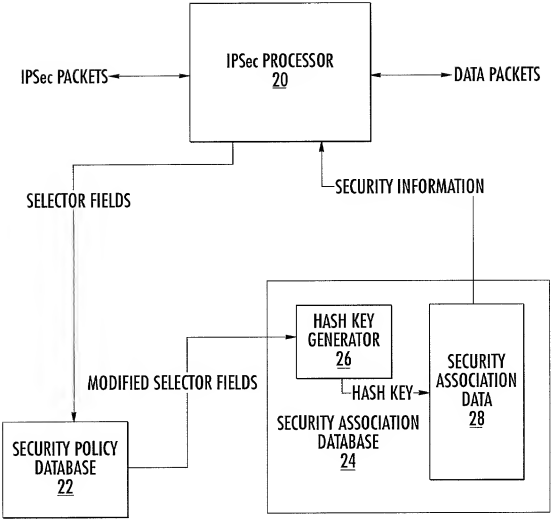

FIG. 1.

T004h0" 2eh5k860

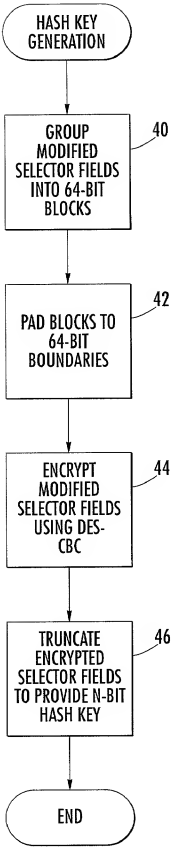

FIG. 2.

ADDRESS	DATABASE ENTRIES	
N-1	SECURITY VALUE A	HASH VALUE N-1
N	SECURITY VALUE B	HASH VALUE N
N+1	SECURITY VALUE C	HASH VALUE N+1
N+2	EMPTY	EMPTY
N+3	EMPTY	EMPTY
N+4	EMPTY	EMPTY

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FIG. 3A.

ADDRESS	DATABASE ENTRIES	
N-1	SECURITY VALUE A	HASH VALUE N-1
N	SECURITY VALUE B	HASH VALUE N
N+1	SECURITY VALUE D	HASH VALUE N
N+2	SECURITY VALUE C	HASH VALUE N+1
N+3	EMPTY	EMPTY
N+4	EMPTY	EMPTY

28

FIG. 3B.

ADDRESS	DATABASE ENTRIES	
N-1	SECURITY VALUE A	HASH VALUE N-1
N	SECURITY VALUE D	HASH VALUE N
N+1	SECURITY VALUE C	HASH VALUE N+1
N+2	EMPTY	EMPTY
N+3	EMPTY	EMPTY
N+4	EMPTY	EMPTY

28

FIG. 3C.

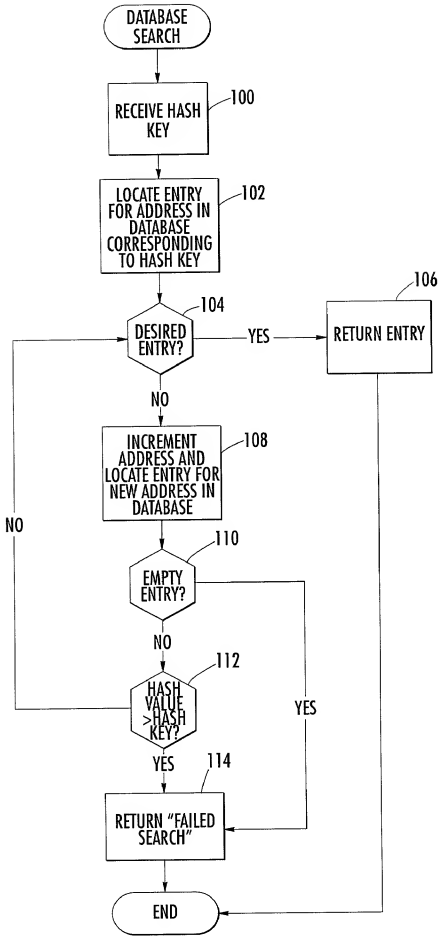
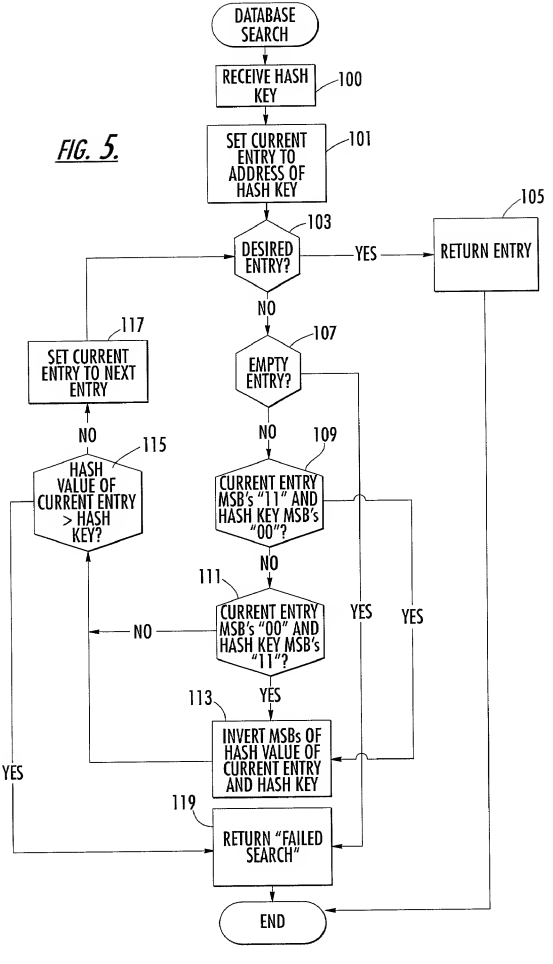

DATABASE SEARCH
RECEIVE HASH KEY
100
LOCATE ENTRY FOR ADDRESS IN DATABASE CORRESPONDING TO HASH KEY
102
DESIRED ENTRY?
104
YES
RETURN ENTRY
106
NO
INCREMENT ADDRESS AND LOCATE ENTRY FOR NEW ADDRESS IN DATABASE
108
NO
EMPTY ENTRY?
110
NO
HASH VALUE > HASH KEY?
112
YES
YES
RETURN "FAILED SEARCH"
114
END

FIG. 4.

FIG. 5.


DATABASE SEARCH
RECEIVE HASH KEY
100
SET CURRENT ENTRY TO ADDRESS OF HASH KEY
101
DESIRED ENTRY?
103
YES
RETURN ENTRY
105
NO
EMPTY ENTRY?
107
NO
CURRENT ENTRY MSB's "11" AND HASH KEY MSB's "00"?
109
NO
CURRENT ENTRY MSB's "00" AND HASH KEY MSB's "11"?
111
YES
YES
NO
YES
INVERT MSBs OF HASH VALUE OF CURRENT ENTRY AND HASH KEY
113
HASH VALUE OF CURRENT ENTRY > HASH KEY?
115
NO
SET CURRENT ENTRY TO NEXT ENTRY
117
YES
RETURN "FAILED SEARCH"
119
END

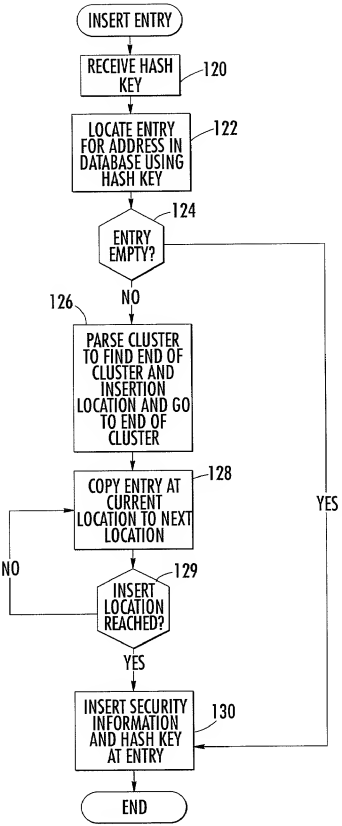

INSERT ENTRY
RECEIVE HASH KEY
120
LOCATE ENTRY FOR ADDRESS IN DATABASE USING HASH KEY
122
ENTRY EMPTY?
124
NO
126
PARSE CLUSTER TO FIND END OF CLUSTER AND INSERTION LOCATION AND GO TO END OF CLUSTER
COPY ENTRY AT CURRENT LOCATION TO NEXT LOCATION
128
YES
NO
INSERT LOCATION REACHED?
129
YES
INSERT SECURITY INFORMATION AND HASH KEY AT ENTRY
130
END

FIG. 6.

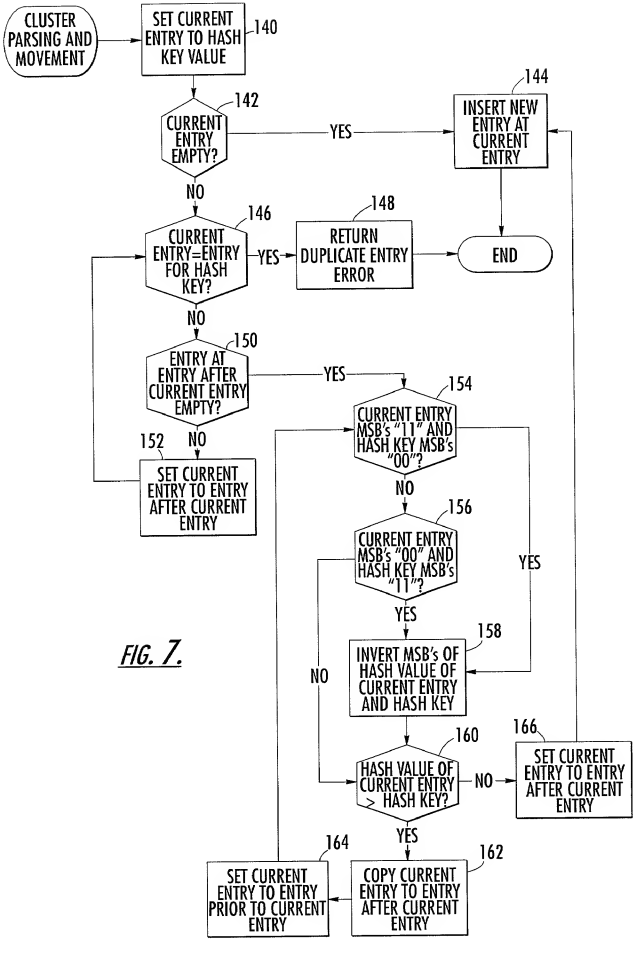

CLUSTER PARSING AND MOVEMENT
SET CURRENT ENTRY TO HASH KEY VALUE
140
CURRENT ENTRY EMPTY?
142
YES
INSERT NEW ENTRY AT CURRENT ENTRY
144
NO
CURRENT ENTRY=ENTRY FOR HASH KEY?
146
YES
RETURN DUPLICATE ENTRY ERROR
148
END
NO
ENTRY AT ENTRY AFTER CURRENT ENTRY EMPTY?
150
YES
NO
152
SET CURRENT ENTRY TO ENTRY AFTER CURRENT ENTRY
CURRENT ENTRY MSB's "11" AND HASH KEY MSB's "00"?
154
NO
CURRENT ENTRY MSB's "00" AND HASH KEY MSB's "11"?
156
YES
YES
INVERT MSB's OF HASH VALUE OF CURRENT ENTRY AND HASH KEY
158
NO
HASH VALUE OF CURRENT ENTRY > HASH KEY?
160
NO
SET CURRENT ENTRY TO ENTRY AFTER CURRENT ENTRY
166
YES
SET CURRENT ENTRY TO ENTRY PRIOR TO CURRENT ENTRY
164
COPY CURRENT ENTRY TO ENTRY AFTER CURRENT ENTRY
162

FIG. 7.

FOCHA: 2E45H36D

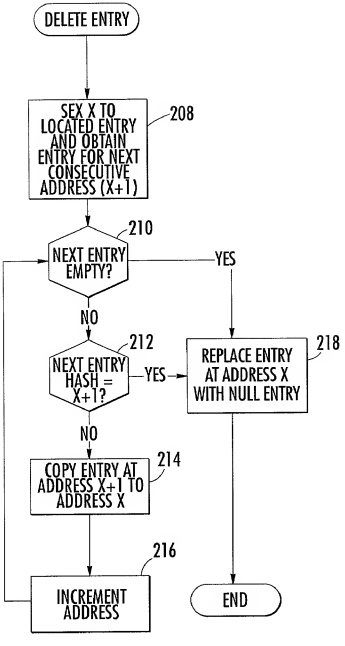


FIG. 8.